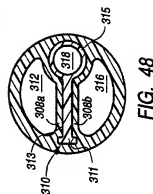
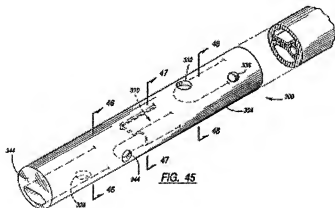


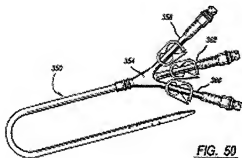
REMARKS

Claims 1-23, and 28-32 were before the Examiner. In this paper, Claims 1, 7, and 18 have been amended. No claims have been added. No Claims have been canceled. Therefore, Claims 1-23, and 28-32 remain before the Examiner. No new matter has been added with these amendments.

The Examiner rejected Claims 1-11 and 13-32 as being anticipated by, or, in the alternative nonpatentable under 35 U.S.C. § 103(a) over Mahurkar (U.S. Patent No. 5,374,245). The Examiner rejected Claim 12 as being nonpatentable under 35 U.S.C. § 103(a) over Mahurkar. For the reasons discussed below, Applicants disagree.

Mahurkar describes a three lumen catheter for hemodialysis treatment in which a relatively small third lumen 318 can be used to deliver medication into a patient's bloodstream or withdraw blood samples from the patient. (Col. 13, lines 45-50). Figures 45, 48, and 50, reproduced below, illustrate this three-lumen catheter. As is apparent from the Figures, the third lumen 318, extends between an aperture 348 in the catheter sidewall (Figure 45, possibly mislabeled 344) and an extension tube 362 (Figure 50). Mahurkar indicates that the lumen 318 is "not used to conduct blood except for withdrawal of samples for analysis, and is normally either filled with heparin anticoagulant solution or closed when it is not being used . . ." (Col. 14, lines 42-45). The extension tube 362 is similar to those described by Mahurkar as intended for connection to a dialysis system, and thus, external to a patient's vasculature. (Col. 6, lines 13-31).





Mahurkar Does Not Anticipate or Render the Claimed Inventions Unpatentable

Regarding Claim 1

Claim 1 of the present application recites, among other limitations, a multilumen catheter including a third lumen having a proximal end and a distal end “positioned between the first distal end and the proximal end of the catheter body” and “configured to be positioned entirely within the patient’s vascular system.” Mahurkar fails to disclose or suggest a catheter so configured. In contrast, as noted above, a third lumen in the Mahurkar catheter extends to an extension tube that is external to the vasculature and that is configured to couple to a dialysis system. Moreover, the extension tube discussed in Mahurkar is not positioned between the proximal end and a distal end of the Mahurkar catheter body. Furthermore, Mahurkar teaches away from positioning a proximal end and a distal end of its third lumen within the vasculature, as Mahurkar states that the lumen is not typically used to conduct blood and described measures to prevent blood from interacting with the third lumen. Additionally, Mahurkar discloses using the third lumen to accomplish several tasks such as delivering medication, sampling blood, or measuring pressure, all of which utilize an end of the lumen external to the vasculature.

Accordingly, Claim 1 is distinguishable over Mahurkar. Claims 2-6 and 17 depend from Claim 1 and recite additional limitations thereon. Therefore, Claims 2-6 and 17 are allowable for at least the reasons discussed above with respect to Claim 1.

Regarding Claim 7

Claim 7 recited a multilumen catheter including among other limitations, a third lumen “extending along a portion of the catheter body such that the distal end and the proximal end of

the third lumen are each positioned between the distal end and the proximal end of the catheter body” and are “configured to be positioned entirely within the patient’s vascular system.” Mahurkar fails to disclose or suggest a catheter so configured. As noted above with respect to Claim 1, the third lumen discussed in Mahurkar does not include ends that are positioned entirely within the patient’s vascular system and between proximal and distal ends of the catheter body.

Accordingly, Claim 7 is distinguishable from Mahurkar. Claims 8-16 depend from Claim 7 and recite additional limitations thereon. Claims 8-16 are therefore allowable for at least the reasons discussed above with respect to Claim 7.

Regarding Claim 18

Claim 18 discloses an extracardiac pumping system comprising, among other limitations, a multilumen catheter including a third lumen “extending along a portion of the catheter such that the distal end and the proximal end of the third lumen are each positioned between a distal end and a proximal end of the catheter” and “the distal end and the proximal end of the third lumen configured to be positioned entirely within the patient’s vascular system.” In contrast, as discussed above, Mahurkar discloses a catheter having a third lumen that extends to an extension tube external to a patient’s vasculature and not between the proximal end and the distal end of the catheter.

Accordingly, Claim 18 is distinguishable from Mahurkar. Claims 19-23 depend from Claim 18 and recite additional limitations thereon. Claims 19-23 are therefore allowable for at least the reasons discussed above with respect to Claim 18.

Regarding Claim 28.

Claim 28 recites a multilumen catheter including, among other limitations, “a means for passively maintaining or enhancing perfusion to the patient’s vasculature downstream of a point of entry of said catheter into a blood vessel when said catheter is inserted into the patient for treatment.” In contrast, Mahurkar discloses aspects of a catheter to maintain the rigidity and shape of the catheter within the vasculature, which tends to occlude the vasculature. Thus, the Mahurkar catheter teaches away from enhancing perfusion downstream of a point of entry of the catheter. For example, Mahurkar discloses a reinforcing strip (col. 7, lines 20-25) and spiral

reinforcing member (col. 8, lines 3-12) to reinforce and reduce kinking of the catheter within the vasculature. Despite this discussion of aspects related to flow within the catheter, Mahurkar, however, does not disclose or suggest maintaining or enhancing perfusion *in the vasculature*, as is recited in Claim 28.

Therefore, Claim 28 is distinguishable over Mahurkar. Claim 29 depends from Claim 28 and recites additional limitations thereon. Claim 29 is therefore allowable for at least the reasons discussed above with respect to Claim 28.

Regarding Claim 30

Claim 30 recites a multilumen catheter comprising, including, among other limitations, “means for passively maintaining or enhancing perfusion to the patient’s vasculature downstream of a point of entry of said catheter into a blood vessel when said catheter is inserted into the patient for treatment.” For at least the reasons discussed above with respect to Claim 28, Mahurkar fails to disclose or suggest means for passively maintaining or enhancing perfusion to the patient’s vasculature. Rather, as noted above, Mahurkar discloses various aspects related to maintaining the rigidity and shape of the catheter.

Therefore, Claim 30 is distinguishable over Mahurkar. Claims 31 and 32 depend from Claim 30 and recite additional limitations thereon. Claims 31-32 are therefore allowable for at least the reasons discussed above with respect to Claim 30.

Conclusion

Accordingly, for at least the reasons discussed above, all of the pending claims are allowable over the prior art of record. Accordingly, Applicants respectfully request a Notice of Allowance be issued at the Examiner’s earliest convenience.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, the Applicants are not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this

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application. The Applicants reserve the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that the Applicants have made any disclaimers or disavowals of any subject matter supported by the present application.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 1/7/2008

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AMEND

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